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Press Release

Schaeffler at IAA MOBILITY 2025 in Hall B3, Booth B40

Shaping the future of mobility with electric axle drives, hybrid solutions, steer-by-wire technologies, and software

- Focus on powertrain electrification: Schaeffler will showcase its modular EMR4 electric axle drive alongside solutions for all hybrid topologies
- With its Hand Wheel Actuator featuring integrated force-feedback, Schaeffler is driving the development of steer-by-wire technologies
- High-performance master and zone controllers form part of Schaeffler's integration platform for software-defined vehicles, ensuring functional safety and efficiency

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Under the banner of "The Motion Technology Company," Schaeffler will showcase its expanded portfolio at IAA MOBILITY from September 8 to 12, for the first time since the successful acquisition of Vitesco Technologies. Focusing on three core areas – electrified powertrain solutions, intelligent chassis and body solutions, and solutions for software-defined vehicles – Schaeffler will unveil new, innovative products while demonstrating its enhanced expertise in key development areas and expanded manufacturing capabilities. "We are ideally placed to serve as a key partner in the industry's transformation – in Germany, across Europe, and worldwide," says Matthias Zink, CEO Powertrain & Chassis at Schaeffler AG. "Our goal is clear: to shape the future of mobility with our customers – decarbonized, automated, and connected." Thomas Stierle, CEO E-Mobility at Schaeffler AG, adds: "On this journey, innovation, agility, strong execution, and customer focus are key to our success. We invite all visitors to this year's IAA MOBILITY to attend our booth and experience Schaeffler's progress on the road to becoming the leading Motion Technology Company."

EMR4 electric axle drive: modular architecture for tailored solutions

The future is electric – there is no question about it. By 2035, battery-powered electric vehicles will be the dominant drive technology. To meet this demand, Schaeffler is developing and manufacturing a wide range of electromobility solutions – from individual components such as electric motors, power electronics, and thermal management modules to complex

high-voltage axle drives and electronic control units. The EMR4 (Electronics Motor Reducer, 4th generation) combines a permanent-magnet synchronous motor, power electronics, and transmission in a single compact housing. Its modular architecture allows for precise adaptation to a wide variety of vehicle concepts. Standardized interfaces ensure maximum compatibility and simplify integration into the vehicle. “The EMR4 platform is designed as a modular system, offering free configuration,” says Thomas Stierle. “Different inverter, reducer, rotor and stator, and housing variants enable us to deliver tailored solutions that meet the diverse performance and packaging requirements of our customers worldwide.” A variant that operates without rare-earth magnets is also available. In addition to electric drive systems, thermal management is playing an increasingly greater role in improving overall powertrain efficiency. Adaptability to future regulatory requirements is another key factor, particularly when considering the use of alternative refrigerants such as R744 (CO_2) and R290 (propane). Schaeffler’s broad, modular thermal management portfolio supports both of these natural refrigerants.

From PHEV to REEV: Schaeffler offers solutions for every hybrid architecture

Hybrid architectures such as plug-in hybrids, mild hybrids, and range extenders offer significant innovation potential and will continue to play a vital role in the powertrain mix. “Schaeffler provides the full range of solutions – from individual components to complete systems – for all hybrid topologies,” says Matthias Zink. “Our dedicated hybrid transmission, for example, combines power electronics with smart hydraulics featuring integrated cooling, a clutch system, and a parking lock mechanism.” This all-in-one solution is suitable for both full hybrids and plug-in hybrids and can be operated in electric, serial, or parallel configurations. In serial mode, this flexibility allows the internal combustion engine to operate consistently at optimum efficiency. Schaeffler will illustrate this at IAA MOBILITY by showcasing an internal combustion engine demonstrator developed specifically for hybrid applications. This exhibit features innovative damper solutions and electromechanical camshaft phasing units designed to meet future NVH requirements and emission standards. To further enhance emissions control when using decarbonized fuels, Schaeffler offers the Flex Fuel Sensor, which measures ethanol concentration and fuel temperature with a high degree of precision prior to injection.

Chassis technologies for automated driving

By 2035, one in ten vehicles produced is expected to be highly automated (Level 4), with a further 15 percent featuring partial automation (Level 3). These advancements create new expectations and requirements for

safety and comfort. “Through innovative damper and steering systems, supported by dedicated software, we are already delivering solutions today,” says Matthias Zink. “At the same time, we are advancing our steer-by-wire technologies, such as the force-feedback function in the Hand Wheel Actuator (HWA).” This Schaeffler solution combines a magnetorheological brake with an optimized BLDC motor to provide a precise steering feel while ensuring efficient energy use. This innovative combination significantly reduces the requirement for copper and rare earths compared to conventional steer-by-wire technologies. At the same time, it paves the way for innovative forms of vehicle control such as joystick steering.

Software as the key to future vehicle platforms

The growing complexity of modern vehicles is leading to increasingly elaborate architectures with a multitude of control units. With the movement toward the “software-defined vehicle,” software-based vehicle functions will be consolidated in the future into centralized and zonal controllers, resulting in a significant reduction in both the complexity of vehicle architectures and wiring effort. Schaeffler is developing technologies that form the electronic backbone of these future architectures. “One of the highlights at our booth is a visualization of a modern E/E platform that is scalable, powerful, and both function- and service-oriented,” explains Thomas Stierle. “Thanks to our many years of expertise in electronics and software, we can deliver not only innovative solutions, but also the corresponding services.” Examples include Master Control Units (MCUs) and Zone Controller Units (ZCUs). The Zone Controller serves as a versatile communications interface, managing, connecting, and supplying all types of control units, sensors, and actuators within a defined zone. The MCU forms the heart of the E/E platform, processing data for lateral and longitudinal acceleration, thermal and energy management, driving and charging strategies, and by-wire systems. Based on a microprocessor, the MCU supports the highest level of functional safety (ASIL-D) while ensuring secure communication. In this way, Schaeffler is contributing to the functional safety and efficiency of future vehicle architectures.

Schaeffler press conference on September 8

Monday, September 8, 2025, 10:20 – 10:40 a.m. (CEST) with Klaus Rosenfeld, CEO of Schaeffler AG; Matthias Zink, CEO Powertrain & Chassis of Schaeffler AG; and Thomas Stierle, CEO E-Mobility of Schaeffler AG, at the Schaeffler booth (B40, Hall B3) and via livestream.

Further information about the trade fair appearance can be found on the Schaeffler website.

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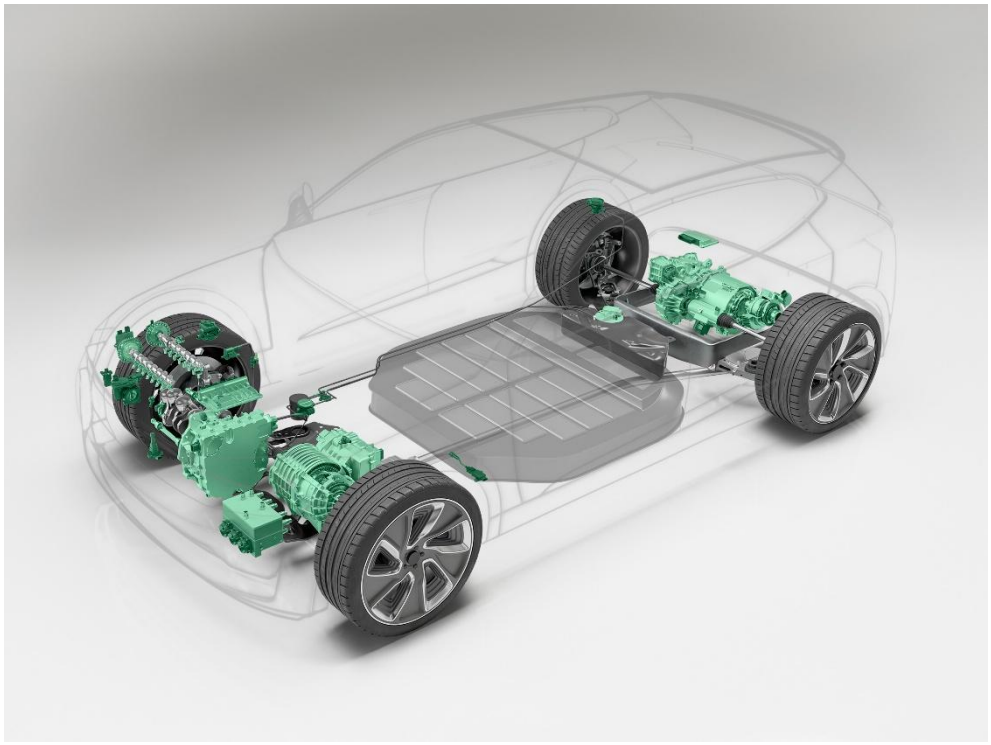

Schaeffler is electrifying the powertrain with modular electric axle drives, complete hybrid systems, and components for hybrid applications. Photo: Schaeffler

The Electronics Motor Reducer (EMR4) axle drive with permanent-magnet synchronous motor (left) and separately excited synchronous motor (right). Photo: Schaeffler

The adjustable Hand Wheel Actuator transmits the steering angle via the vehicle electronics to the steering gear, while the Force Feedback Actuator generates the specific steering feel. Photo: Schaeffler

Schaeffler Group – We pioneer motion

The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for over 75 years. With innovative technologies, products, and services for electric mobility, CO_2-efficient drives, chassis solutions, and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. Schaeffler describes its comprehensive range of products and services by means of eight product families: from bearing solutions and all types of linear guidance systems through to repair and monitoring services. With around 120,000 employees and more than 250 locations in 55 countries, Schaeffler is one of the world's largest family-owned companies and ranks among Germany's most innovative companies.

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